

U.S. Application No.: 10/826,582  
RESPONSE E  
Reply to Office action dated 05/15/2007

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ATTORNEY DOCKET NO.: 3926.081 AUG 13 2007

### REMARKS

Claims 21-40 are pending in the application. Claims 1-20 have been previously cancelled.

#### Claims Rejections – 35 USC 103

Claims 21-22, 25-27, and 30-39 have been rejected under 35 USC 103(a) as being obvious over Marcus et al. (US 5,147,587) (hereinafter "Marcus") in view of Nagai et al. (US 5,677,045) (hereinafter "Nagai").

Claims 23-24 and 40 are rejected under 35 USC 103(a) as being obvious over Marcus et al. in view of Nagai et al. and further in view of either Zoia et al. (US 6,609,043) or Smith et al. (US 6,354,362).

Claims 28-29 are rejected under 35 USC 103(a) as being obvious over Marcus et al. in view of Nagai et al. and further in view of Kington (US 4,989,667).

First, Applicants would like to request the Examiner to avoid the inappropriate piecemeal examination. See MPEP 707.07(g). This kind of practice has caused undue financial burden to Applicants as well as undue delay of the prosecution.

Now turn to the newly cited references. Marcus is not nearer than the nearest prior art reference Langer cited in previous Office actions.

The Examiner's argument that Marcus discloses a powder comprising alumina particles coated by polymer binder and finer ammonium dihydrogen phosphate is incorrect. In fact, the Examiner appears to have mixed two different disclosed powders and invented a new component

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that is not disclosed. There are two kinds of pluralities of materials disclosed in Marcus (see column 8, lines 12-17): kind I are blends; kind II are coated materials. Some examples of kind II (coated materials) are disclosed in column 9, line 27-42, including aluminum silicate coated with a polymer. An example of kind I (blended materials) is disclosed in column 9, line 66 to column 10 line 25, consisting of a first component alumina and a second component ammonium dihydrogen phosphate. The Examiner has evidently mixed both kinds.

Also, Applicants cannot find any hint in Marcus why the ammonium dihydrogen phosphate particles should be finer than the alumina particles and the Examiner did not provide any support for his argumentation.

Further, there is no hint concerning any porosity and no hint concerning an expansion coefficient, especially not to a sufficient expansion coefficient. Therefore, Marcus is not nearer to the present invention than Langer.

In addition, the Examiner has tried to find any state of the art disclosing a sufficient expansion coefficient but neglected any convincing argument as to why a person skilled in the art would search for such an state of the art and combine it with Langer or Marcus.

The Examiner has admitted that Marcus fails to teach the use of resin having relatively high thermal expansion coefficient. However, the Examiner did not provide any motivation why a person skilled in the art should search for any material with high thermal expansion coefficient. The only reason why the Examiner has argued this way appears to be that the newly introduced prior art reference Nagai discloses such an resin. But this is not permitted hindsight. The Examiner did not give any reason why a person skilled in the art, starting from Marcus and trying to improve Marcus, should search for a material with a high thermal expansion coefficient. The Examiner did not provide no hint how the person skilled in the art should find Nagai which discloses totally different subject matter concerning semiconductor printed circuits and is classified totally different from the present invention or Marcus. Further, the Examiner did not

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offer any reason why the person skilled in the art should combine those totally different states of the art. Even if the person skilled in the art would combine those totally different states of the art, the result would not work because the resin of Nagai may have a sufficient range of expansion coefficient but its glass transition temperature of 150-300°C is not sufficient at all. Such a resin would just evaporate when used in a casting process. Therefore, the combination of Marcus and Nagai would disappoint the person skilled in the art and therefore would lead away from the present invention

The object of the present invention is to guarantee a sufficiently good dimensional stability of the casting mold. This object is achieved by additional application of fine particles, through which the temperature required for the sintering compound of the course particles is lowered, especially shrinkage is reduced.

The object of Langer is just the same as the present invention while the object of Marcus is to provide a method of producing a part out of multiple material powder by melting one of the materials but where the final part is formed by an chemical reaction between the components and where the final part has a much higher melting point due to the chemical transformation of the materials. Therefore, the object of Marcus is totally different and Langer is a much nearer prior art reference. This is also evidenced by the fact that Langer and the present invention show the same US Patent classification while Marcus shows a totally different classification. But Langer discloses a totally different alternative solution to the present invention, as already discussed in detail in the previous responses.

Applicants have argued that Langer has already solved the problem of the present invention, but in a different way. So there is no motivation for a person skilled in the art to look for another solution. The Examiner has not commented on this argument.

Applicants have argued that a person skilled in the art would neither search for, nor find, nor use Goldsmith. The same argument applies to the newly cited reference Nagai as well.

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The present invention and Langer concern the production of casting molds with rapid prototyping. In contrast, Nagai concerns semiconductor printed circuits. Accordingly the IPC and the US Cl. of Nagai are totally different. Furthermore, Nagai does not disclose any suitable material as discussed above.

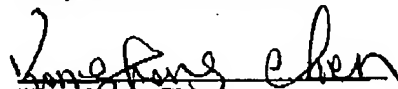
In viewing of the above, it is believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claims 21, 28, 30 and 36. Claims 21, 28, 30 and 36 are, therefore, believed to be patentable over the art and since all of the dependent claims are ultimately dependent on claims 21, 28, 30, or 36, they are believed to be patentable as well.

The Commissioner is hereby authorized to charge any fees which may be required at any time during the prosecution of this application without specific authorization, or credit any overpayment, to Deposit Account Number 50-0951.

Withdrawal of the rejections and early issuance of a Notice of Allowance are respectfully requested. Should further issues remain prior to allowance, the Examiner is respectfully requested to contact the undersigned at the indicated telephone number.

Date: August 13, 2007

Respectfully submitted,

  
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